From Spitzer to Herschel and Beyond

From Spitzer to Herschel and Beyond

Evolution of Circumstellar Disks

John Carpenter

(Email: jmc@astro.caltech.edu)

Department of Astronomy, California Institute of Technology, Pasadena, California

Most young solar type stars are surrounded by circumstellar accretion disks. These disks provide the raw materials for the formation of planetary systems, and indeed, the increasing number of Jupiter-mass objects found orbiting older stars suggests that planet formation is a common outcome of the star formation process. One key to understanding planet formation is establishing the lifetime of the dust and gas in circumstellar accretion disks. In this talk, I review the current observational constraints on disk lifetimes, and discuss how Spitzer, Herschel, and future far-infrared interferometric missions will dramatically improve our understanding on how disks evolve around solar-type stars.